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**Subject: State Aid SA.52732 (2020/N) – Germany  
National gigabit scheme Germany**

Sir,

I am pleased to inform you that the Commission has assessed the measure "National gigabit scheme Germany"<sup>1</sup> as notified by Germany and described in this decision and decided not to raise objections. On that basis, the measure is compatible with the internal market pursuant to Article 107(3)(c) of the Treaty on the Functioning of the European Union ("TFEU").

## 1. PROCEDURE

- (1) Following pre-notification contacts, by letter registered on 22 September 2020 pursuant to Article 108(3) of the TFEU, the German authorities notified the National gigabit scheme Germany (also "German gigabit scheme").
- (2) With the notified measure, Germany intends to provide broadband access networks ("the target network" or "the target infrastructure"), which will be able to provide speeds of at least 1 Gbps symmetric (upload and download). As target areas where such target infrastructure is supposed to be deployed, Germany defines areas where no or at maximum one broadband network providing speeds of 30 Mbps download or more (next generation access infrastructure or "NGA" infrastructure) already exists or is planned to be constructed or upgraded by private investors. These so-called "white NGA

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<sup>1</sup> Framework Regulation of the Federal Republic of Germany to support the deployment of gigabit-capable networks covering all "grey areas" ("Rahmenregelung der Bundesrepublik Deutschland zur Unterstützung des flächendeckenden Aufbaus von Gigabitnetzen in 'grauen Flecken'")

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areas" (no NGA network) or "grey NGA areas" (one NGA network) are target areas under the notified measure, provided that the infrastructure, which already exists or is planned to be deployed by private investors within the next three years ("available infrastructure" or "available network"), does not exceed certain intervention thresholds (see recitals (7) - (9)).

## 2. CONTEXT

- (3) The Europe 2020 Strategy (EU2020)<sup>2</sup> and the Digital Agenda for Europe (DAE) have underlined the importance of broadband deployment to promote competitiveness, social inclusion and employment in the EU and defined the aim to bring basic broadband access to all Europeans by 2013 and ensure that, by 2020, (i) all Europeans have access to much higher internet speeds of above 30 Mbps (download) and (ii) 50% or more of the European households subscribe to internet connections above 100 Mbps (download). Key Action 8 of the DAE calls upon Member States *"to use public financing in line with EU competition and State aid rules"* in order to meet the coverage, speed and take-up targets.
- (4) On 14 September 2016, the Commission adopted the Communication "Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society" ("Gigabit Communication")<sup>3</sup>. The Commission thereby set out a new strategy where availability and take-up of very high capacity networks enable the widespread use of products, services and applications in the Digital Single Market. This strategy is operationalized through three strategic objectives for 2025:
  - (i) for Europe's growth and jobs, Gigabit connectivity defined as *"cost-effective symmetrical Internet connectivity offering a downlink and an uplink of at least 1 Gbps"*<sup>4</sup> for places driving socio-economic developments ("socio-economic drivers"), such as schools, transport hubs, main providers of public services and digitally intensive enterprises;
  - (ii) for Europe's competitiveness, uninterrupted 5G coverage for all urban areas and all major terrestrial transport paths;
  - (iii) for Europe's cohesion and building on the DAE targets, access for all European households, rural or urban, to Internet connectivity offering at least 100 Mbps, upgradeable to gigabit speed.
- (5) On 19 February 2020, the Commission adopted the Communication "Shaping Europe's Digital Future"<sup>5</sup> which makes reference to the objectives specified in the Gigabit Communication and further clarifies: *"These objectives require for*

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<sup>2</sup> EUROPE 2020 - A strategy for smart, sustainable and inclusive growth, COM(2010) 2020.

<sup>3</sup> Communication from the Commission of 14.9.2016: Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society, COM(2016) 587, accompanied by the Commission Staff Working Document of 14.9.2016, SWD(2016) 300.

<sup>4</sup> Footnote 19 of the Gigabit Communication

<sup>5</sup> Communication from the Commission of 19.2.2020: Shaping Europe's Digital Future, COM(2020) 67 final.

*all European households, rural or urban, an internet connectivity of at least '100 Mbps, upgradeable to Gigabit speed'. This reflects the Commission's expectation that, as the decade progresses, households will increasingly need 1 Gbps. This is in line with the Commission's observation of exponentially growing network capacity demands and the need to ensure sustainable investments into networks capable of offering symmetric (i.e. upload and download) Gigabit speeds to cater for the European data economy beyond 2025. All main socio-economic drivers, such as schools, hospitals, businesses should already benefit from Gigabit connectivity with equally fast upload and download speeds at the latest by 2025."*

- (6) Germany wants to deploy a target infrastructure which allows for high symmetric speeds of at least 1 Gbps in white and grey NGA areas (black NGA areas with two or more NGA infrastructures are not covered by the notified measure). To ensure that the investment with public money brings about a significant improvement in connectivity, the notified measure defines as a general principle that the target infrastructure covered by this measure has to at least double both the download and the upload speeds of the NGA network which exists or is planned by private investors within a certain set of speed thresholds. These thresholds (understood as speeds that can be reliably delivered to the customer) are aimed at defining the target areas where the target infrastructure may be deployed by indicating the premises that are eligible to be connected to the new infrastructure.
- (7) Socio-economic drivers can be connected to the target infrastructure if they have access to an available infrastructure allowing for less than 200 Mbps symmetric (which is the case if they have less than 200 Mbps download or upload or both). This is possible as from the date of this decision.
- (8) For households, the thresholds are defined in two steps ("two-step approach"):
  - (a) In a first step, households can only be connected to the target infrastructure if no existing network allows for 100 Mbps download or more and if no upgrade to 100 Mbps is planned within one year from the public consultation. The first step starts immediately after the adoption of this approval decision.
  - (b) In a second step as from 1 January 2023, the same intervention thresholds apply for households as for socio-economic drivers. The deployment of the gigabit infrastructure may start in 2023 in order to achieve full coverage of the target area in 2025. The marketing of services in the relevant target areas under the second step is possible with a view to a start of operation of the gigabit network at the end of 2025 and a subsequent provision of services at retail level on the new gigabit network. Public consultations related to the second step may start earliest as from 1 November 2022.
- (9) Areas where the available download speed (existing or planned within three years) exceeds 500 Mbps are not eligible under the measure. Only premises that do not have access to networks reaching the above mentioned thresholds may be connected to the new gigabit-infrastructure.

- (10) In areas where a publicly financed NGA-network has previously been deployed or where such a network is in the process of being implemented / in construction<sup>6</sup>, a new gigabit-network to be deployed under the notified scheme may start operation before the end of the earmarking period of this previous NGA-network, unless the operator of the previous NGA-network objects to an early start of operation during the public consultation.<sup>7</sup>
- (11) The measure will allow for two different investment models: a gap funding model where a network operator selected via a competitive tender constructs, owns and operates the subsidized network and an operator's model where the infrastructure is deployed and owned by the municipality and a network operator is only selected for the operation of the network. The measure foresees that the target infrastructure has to provide the capacity of the mentioned target speeds – moreover, the selected network operators will have to offer internet services providing these target speeds as reliable speeds per subscriber, as soon as demand for such speeds is expressed<sup>8</sup>. The selected network operators will grant open wholesale access to third parties under both the gap funding and the operator's model.

### 3. DESCRIPTION OF THE MEASURE

- (12) **Objectives:** By the measure, Germany wishes to respond to increasing needs for very high down- and upload speeds. Germany expects that an important share of households and companies need already now high speeds as targeted by the measure and will increasingly do so in the near future. It refers to the Gigabit Communication (see recital (4)) and its findings regarding a growing need for very high capacity networks ("VHC" networks)<sup>9</sup> in the coming years

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<sup>6</sup> Only subsidized networks built under the gap funding model are included in this rule since in the operator's model it is the municipality itself which has previously done 100% of the investment and which then decides to overbuild it under the notified measure. Any objection by an operator of a network built under the operator's model only has to be considered if no possibilities exist to adapt or terminate the existing lease contract to the situation where the municipality decides to overbuild its network during the earmarking period.

<sup>7</sup> Germany explains that the overwhelming majority of privately financed NGA-investment projects have been finalised in the past and that private networks regularly reach amortization earlier than publicly financed networks. Therefore, Germany does not cover with this rule purely privately financed investments. It confirms however, that municipalities are requested under this scheme to give due consideration to any claims by private investors regarding the granting of a corresponding delay in the start of operation of the new network to be deployed under the notified scheme if those can demonstrate that Germany's above mentioned assumptions about privately financed NGA-investment projects do not apply in a specific case.

<sup>8</sup> Municipalities may also use a 'wholesale only' model if the provision of the services as defined is ensured.

<sup>9</sup> A VHC network can be considered as a more performing form of NGA infrastructure and is defined as either an electronic communications network which consists wholly of optical fibre elements at least up to the distribution point at the serving location, or an electronic communications network which is capable of delivering, under usual peak-time conditions, similar network performance in terms of available downlink and uplink bandwidth, resilience, error-related parameters, and latency and its variation; network performance can be considered similar regardless of whether the end-user experience varies due to the inherently different characteristics of the medium by which the network ultimately connects with the network

as supported by studies which point towards a growing need in Germany for very high speeds<sup>10</sup>.

- (13) Germany explains that while applications such as e-commerce, BigData, virtual private networks (VPNs), cloud computing, high-resolution video communication, industry 4.0, e-health/telemedicine, etc. require ever higher bandwidths up to the gigabit range (symmetrical) by businesses, the demand for high symmetric transmission rates, e.g. for the increasing spread of cloud and streaming services, is also increasing significantly by private households.
- (14) The German authorities submit that the public sector intervention is justified in order to address the lack of gigabit infrastructure, which results from the fact that the connectivity, which is already needed and expected to be increasingly needed in the foreseeable future, is not provided nor planned by market operators. The reason for this can be found in low profitability of such investments in some regions.
- (15) In the view of the German authorities, this impediment cannot be addressed by other less distortive measures, such as demand stimulation, which would increase demand, but could not ensure a large coverage of the target area. Also *ex ante*-regulation is considered by Germany as no effective means to reach an increased coverage with broadband networks since State aid targets areas, where investments do not take place due to a lack of profitability. While an *ex ante* regulation can limit the market power of individual undertakings, it cannot in Germany's view lead to a higher profitability of investments.
- (16) Aid under the notified measure will not be granted to companies against which an open recovery order for illegal aid exists (Deggendorf rule) or which on the basis of the Guidelines on State aid for rescuing and restructuring non-financial undertakings have to be considered as companies in financial difficulties. In the gap funding model, funding is subject to revocation if, within seven years from start of operation (earmarking period), the subsidised broadband infrastructure is no longer being used in line with the purpose of the aid. In the operator's model the earmarking period is defined by the duration of the lease contract. No projects may be funded which have started before the application for aid.
- (17) **Legal basis:** The legal basis is the German financial regulation ("Bundeshaushaltsordnung") together with its related administrative regulations and the so-called "Framework Regulation of the Federal Republic of Germany for the support of a nationwide deployment of gigabit networks in

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termination point (Art. 2(2) Directive (EU) 2018/1972 and footnote 11 of the Gigabit Communication).

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- Studies by WIK Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste GmbH:
- August 2017: "Ansätze zur Glasfaser-Erschließung unterversorgter Gebiete" (Approaches for deployment of fibre in under-supplied areas) [https://www.wik.org/fileadmin/Studien/2017/2017\\_DIHK\\_Studie.pdf](https://www.wik.org/fileadmin/Studien/2017/2017_DIHK_Studie.pdf)
  - March 2017: "Die Privatkundennachfrage nach hochbitratigem Breitbandinternet im Jahr 2025" (Private demand for high speed broadband internet in 2025): [https://www.wik.org/fileadmin/Studien/2017/Die\\_Privatkundennachfrage\\_nach\\_hochbitratigem\\_Breitbandinternet\\_im\\_Jahr\\_2025\\_FINAL.pdf](https://www.wik.org/fileadmin/Studien/2017/Die_Privatkundennachfrage_nach_hochbitratigem_Breitbandinternet_im_Jahr_2025_FINAL.pdf).

‘grey areas’" ("Framework Gigabit Regulation")<sup>11</sup>, which sets out the conditions for the granting of State aid in white and grey NGA areas targeted by this measure. An "Aid Implementing Directive" ("Förderrichtlinie") will follow in order to set out implementing details in line with the Framework Gigabit Regulation. The notified measure is supposed to replace the existing scheme for white NGA areas<sup>12</sup> of 2015 ("2015-NGA scheme"). The present decision will form part of the legal basis for the notified measure.

- (18) **Budget and financing instruments:** The aid amount from the national budget is 6 billion Euro. The aid will be awarded via direct grants to the selected beneficiaries. Furthermore, the possibility of loans, guarantees as well as the provision of public passive infrastructure to selected operators is planned as an option. Regional budgets of the Länder as well as municipal budgets will contribute to the total aid provided to the individual projects. The total budget for the notified measure on Federal, Länder- and municipal level amounts on this basis to up to 12 billion Euro. The measure is notified as a scheme.
- (19) **Duration of the measure:** The measure will enter into force after approval by the Commission and remain in force until 31 December 2025. The notified measure will only be implemented after the Commission's approval, respecting the stand-still obligation.
- (20) **Granting authorities:** The Federal Ministry for Transport and Digital Infrastructure as granting authority will allocate funds to the interested and eligible municipalities via a project management agency still to be appointed. The municipalities will undertake the necessary procedures of mapping, public consultation and tenders in order to identify the target areas and the beneficiaries of the aid. The identified need for State aid will be covered 100% by State funds – no cumulation of aid exceeding the identified need is possible.
- (21) **Design of the measure:** The target infrastructure and the target areas for the measure are defined on the basis of speeds, which are to be understood as speeds that can be reliably delivered to the customer.
- (22) The target infrastructure under the notified measure is supposed to provide at least 1 Gbps symmetric. It has to provide this capacity. Moreover, the selected network operators will have to offer internet services providing these target speeds as reliable speeds per subscriber, as soon as those are requested by customers.
- (23) The deployment of the target infrastructure has to represent a significant investment. The target infrastructure must at least double the download and upload speeds of the available infrastructure in the target area.
- (24) As target areas, Germany defines white and grey NGA areas. Black NGA areas with two or more NGA infrastructures are not covered by the notified measure. The exact target areas are defined by a set of thresholds and conditions (see recitals (7) - (9)).

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<sup>11</sup> "Rahmenregelung der Bundesrepublik Deutschland zur Unterstützung des flächendeckenden Aufbaus von Gigabitnetzen in ‘grauen Flecken’"

<sup>12</sup> See SA.38348 - NGA Germany – adopted on 15 June 2015.

- (25) The measure will allow for two different investment models: (i) a gap funding model where a network operator selected via a competitive tender constructs, owns and operates the subsidized network and (ii) an operator's model where the infrastructure is deployed and owned by the municipality and a network operator is only selected for the operation of the network.<sup>13</sup> In the gap funding model, the operator is obliged to operate the subsidized infrastructure for at least seven years. In the operator's model, the operator leases the network for the duration of the lease agreement which will cover at least a minimum of seven years. The municipality is obliged to offer the subsidized network to the market for sale in an open and non-discriminatory tender procedure after the expiry of the lease agreement.
- (26) In both investment models (gap funding model, operator's model) the network operator will be selected on the basis of an open, transparent and competitive tender. The target network will be an access network consisting of passive elements<sup>14</sup> - active elements are supposed to be provided by the selected network operators. Open wholesale access to third parties will be ensured under both the gap funding and the operator's model (see recitals (56) - (57)).
- (27) **Mapping and public consultation:** The German authorities conducted a *general public consultation* of the measure as such as originally planned ("original scheme") in the period between 4 July 2019 and 2 August 2019<sup>15</sup>. A number of network operators and other market participants, including their associations, replied as well as some Länder and associations of cities/municipalities. Also the national regulator (Bundesnetzagentur – BNetzA) provided an opinion (see recital (43)). The Monopolies Commission commented on the planned measure as publicly consulted in its report of 3 December 2019.<sup>16</sup>
- (28) Under the original scheme, Germany had initially planned to deploy gigabit infrastructure in all grey NGA areas which were not already covered by "gigabit-capable" infrastructure, defined by Germany as cable or fibre (Fibre to the building "FTTB"/Fibre to the home "FTTH") infrastructure. The original scheme would have largely affected Fibre to the Cabinet ("FTTC")-infrastructure, potentially already upgraded by (super-) vectoring. Projects for the deployment of such networks had been initiated under the 2015-NGA scheme until mid-2018 - a number of them have not been finalised yet. In the

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<sup>13</sup> Both models allow for a 'wholesale only' model if the provision of the services to end-customers is ensured. In a wholesale only model, the selected network operator does not provide retail services, but only wholesale services. Since ultimate aim of allowing for State aid to network operators is to provide broadband services to end-customers, wholesale only models are possible if services to end-customers are also ensured, for example via a cooperation with one or more service providers.

<sup>14</sup> Active elements / components are electronic equipment parts of a network. Passive elements / components are, for example, ducts and dark fibre.

<sup>15</sup> A large number of stakeholders had been contacted also by e-mail of 29 May 2019.

<sup>16</sup> [https://monopolkommission.de/images/PDF/SG/11sg\\_telekommunikation.pdf](https://monopolkommission.de/images/PDF/SG/11sg_telekommunikation.pdf); press release in German: [https://monopolkommission.de/images/PDF/SG/presse\\_11sg\\_telekommunikation.pdf](https://monopolkommission.de/images/PDF/SG/presse_11sg_telekommunikation.pdf); press release in English: [https://monopolkommission.de/images/PDF/SG/press\\_11th-sector-report-telecommunications.pdf](https://monopolkommission.de/images/PDF/SG/press_11th-sector-report-telecommunications.pdf)

original scheme, Germany had offered a possibility for NGA-network operators who had completed an NGA network in the past three years to claim a period of investment protection of three years but at maximum until 31 December 2022. With the end of this investment protection period, projects could be submitted by municipalities for approval to the granting authority.

- (29) While respondents to the public consultation mostly welcomed the target set out by the measure, namely the aim of gigabit speeds, notably network operators and their associations criticized several aspects of the original scheme. They criticized the intended extent of overbuilding of existing or planned infrastructure, questioned the existence of market failure in the target areas as defined in the original scheme and considered the lack of a prioritization mechanism as negative, which would risk leaving white NGA areas unserved. Concerns were raised, that the scheme could lead to a crowding-out of private investments and investment plans, in particular due to a scarcity of construction capacity in the market. The state-funded increase in demand would generate a significant further increase of construction prices. Moreover, network operators considered the offered investment protection as too short and required an adequate protection for recent investments into NGA-infrastructure, in particular those investments which have been initiated under the 2015-NGA scheme.
- (30) Länder and cities/municipalities, however, asked for a reduction of the investment protection period provided in the consulted measure and required facilitated procedures to efficiently achieve a comprehensive coverage with gigabit infrastructure. Germany's initial plan to disregard private investment plans signalled during the public consultations, if they do not cover the full territory of a municipality, and to allow for an indication of private investment plans still during the tender procedure, was criticized by the majority of respondents. The results of the general public consultation were taken into account by the Commission in the present analysis of the notified measure, which was significantly modified by Germany following the public consultation.
- (31) As regards the *public consultations for the purpose of mapping*, the notified measure provides for the following rules: Before launching a tender for a network operator (gap funding model) or deploying a municipal broadband infrastructure (operator's model), the municipalities will undertake a mapping of the existing infrastructure and a public consultation about the existing and planned infrastructure for each respective (preliminary) target area.
- (32) The existing infrastructure will be identified mainly on the basis of a national broadband map (the so-called "Broadband Atlas") which is operated by a project management company for the Ministry of Transport and Infrastructure. The mapping will be done on premise level and show reliable speeds. It will rely on the principle of "homes passed", which means that it considers homes as having access to a certain infrastructure not only if they are actually connected, but already when the infrastructure is close enough so that they could be easily connected to it.
- (33) For the public consultation, the municipalities will publish the measure on a central website (the exact internet address will be set up by a project management company still to be selected – the Ministry for Transport and Digital Infrastructure will publish the internet address before the start of the scheme on its own website [www.bmvi.de](http://www.bmvi.de)). In this public consultation, in order



to identify white and grey NGA areas, market participants will be asked to indicate their plans for private investments in broadband networks in the target areas and to verify the maps provided by the municipalities indicating the existing infrastructure, including the download and upload speeds, which can reliably be reached via this infrastructure.

- (34) Only areas will be targeted which fall under the intervention thresholds set out in recitals (7) - (9). The measure will be designed in two steps as far as the connection of households is concerned. In the public consultations regarding the first step, any infrastructure signalled by private investors which already provides reliable 100 Mbps download or any planned upgrade of existing infrastructure, such as an upgrade of existing FTTC-infrastructure by (super-) vectoring, leading to reliable 100 Mbps will be taken into account in the definition of the target areas, provided that such upgrade will be finalised within one year from the public consultation. In the public consultation regarding the second step for households as well as regarding the connection of socio-economic drivers (the latter is possible as from the date of this decision), any existing infrastructure giving access to 200 Mbps symmetric or more than 500 Mbps download as well as any investor plans to deploy such infrastructure within the next three years will be taken into account.
- (35) The market may react to the public consultation at least for a duration of eight weeks. The areas covered by existing networks or private investment plans signalled during the public consultation and reaching the speeds of the intervention thresholds will be taken out of the ultimate target areas for the measure. These plans will be carved out of the target areas regardless whether they cover the whole or only parts of a municipality's territory. The results of the public consultation will be published on the same central website as the public consultation.
- (36) In order to enable the municipalities to take planned private investments properly into consideration, the companies, which are planning new broadband infrastructure on the basis of private investments, must substantiate their plans indicating in particular the reachable reliable upload and download speeds in the designated area. The municipalities may ask these companies to submit concrete plans with certain milestones to be achieved at pre-defined dates and a substantial deployment of the planned infrastructure within three years (in case of a mere upgrade to 100 Mbps one year). The results of the public consultation may not be older than 12 months at the start of the tender procedure.
- (37) **Target areas:** After having identified the relevant broadband infrastructures, which exist or are planned by private investors on the basis of a mapping of the areas and a public consultation, the exact target areas will be defined by the municipalities.
- (38) The target areas for the measure do not cover all grey NGA areas, but only those or parts of those which provide speeds below the thresholds indicated in recitals (7) - (9). The thresholds are set in a way which is supposed to ensure a step change and at the same time limit any potential crowding out of private investments. These conditions differ for households and socio-economic drivers and comprise for households two steps: the first one starts with the approval of the notified measure, the second one as from 2023 (public consultations as from 1 November 2022). The thresholds are summarised in the following table:

(39) *Criteria for the target infrastructure and eligible customers as defined by Germany*

	Existing NGA infrastructures	General principles	Available speeds (existing or planned by private investors)	Target speeds
Households	White or grey NGA	Step change: the target infrastructure has to provide at least for a <b>doubling</b> of the available download and upload speeds;	<b>less than 100 Mbps download</b>	at least <b>1 Gbps symmetric</b>
Households (as from 2023) and socio-economic drivers			<b>less than 200 Mbps symmetric</b> – if only the available upload speed is below 200 Mbps, the available <b>download speed may not exceed 500 Mbps</b>	

- (40) Areas, where an available network gives households access to reliable speeds of 100 Mbps download or more (e.g. via super-vectoring) will therefore be excluded from the target areas until the end of 2022. As of 2023, also households may be covered by the measure, with access to an available network providing 100 Mbps or more but less than 200 Mbps symmetric and not more than 500 Mbps download.
- (41) Germany indicates that on the basis of the defined set of criteria, areas with available fibre networks (FTTB/H) are under the notified scheme not part of the target areas since they are normally capable of providing the speeds of the intervention thresholds set out in recital (39) and can moreover be considered as gigabit-capable. Areas with available cable networks (based on Docsis 3.1) will on the basis of the set of criteria above equally not form part of the target areas since they normally offer speeds of more than 500 Mbps download (up to 1 Gbps). Areas with existing cable networks based on the Docsis 3.0 standard may only become part of the target areas<sup>17</sup> if no upgrade to Docsis 3.1 is announced by the network operator.
- (42) Germany expects that the deployment of the networks will normally take three years. After deployment of the infrastructure in the target area, the beneficiary will provide the relevant data about the subsidized network to the authority in charge of the Infrastructure Atlas, which is currently the national regulator (BNetzA).

<sup>17</sup> With respect to households from step 2 onwards and with respect to socio-economic drivers from the beginning.

- (43) **Opinion of the NRA:** BNetzA was consulted on the planned measure. BNetzA requested a few clarifications as to its role with respect to the agreements between municipalities and selected network operators (both investment models), wholesale access and wholesale access pricing, the possibility of virtual access products and the documentation of the newly deployed infrastructure. Germany follows BNetzA's requests and agrees to involve BNetzA into the finding of the wholesale access prices and the agreements between municipalities and selected network operators. Germany also confirms that the subsidized gigabit infrastructure has to provide physical unbundling and that the authority in charge of the Infrastructure Atlas (currently BNetzA) will directly receive the data on the newly deployed infrastructure for insertion into the Infrastructure Atlas.
- (44) **Beneficiaries**<sup>18</sup>: In the gap funding model, the selected companies, which will deploy and operate the network will be direct beneficiaries of the aid. In the operators model, both the municipality deploying and renting out the network as an economic activity as well as the selected network operator are direct beneficiaries of the aid.
- (45) **Selection process:** The deployment / operation of the networks will be awarded in transparent and non-discriminatory tender procedures organized by the municipalities. Germany confirms that compliance with the principles of EU public procurement rules will be ensured.
- (46) According to Germany, the tender procedures will be published on the central website for broadband tenders. The tender will specify the respective target areas as well as the requirements for the target network. It will also indicate the wholesale access obligations and the other obligations on the beneficiary (minimum duration of operation, size of ducts, number of connections required etc.). The municipality will also publish its intended selection of the preferred bidder.
- (47) The bid with the most economic offer will be selected. In the gap funding model, the main criterion for the selection of a bidder is the smallest funding gap calculated over a period of seven years. In the operator's model, it is the highest rent to be paid by the network operator to the municipality over the duration of the lease agreement. The municipalities may also define further awarding criteria, which have to be published before-hand including the weights, which will be attributed to them. Municipalities may split the overall area into different lots.
- (48) In case a competitive selection process does not generate a sufficient number of bidders (only less than three), the municipality will involve an external accountant for an examination of the funding gap (in the gap funding model) or the rent (in the operator's model) proposed by the winning bidder and for the further negotiations.
- (49) After the selection procedure, the municipalities will enter into a cooperation agreement (under the gap funding model), or a lease agreement (under the operator's model) with the selected network operator. Before concluding the cooperation/lease agreement, its final version will be submitted to BNetzA for consultation. A planned model contract will be previously consulted with

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This decision only addresses the aid to the direct beneficiaries as notified by Germany.

BNetzA. BNetzA's opinion is binding for the municipality and the beneficiary. If the national regulator does not provide any opinion within eight weeks, the contract can be concluded.

- (50) **Technological neutrality:** No specific technology will be defined in the tender procedure - the principle of technological neutrality will be respected.
- (51) **Step change:** Germany considers that a step change is ensured by the fact that the speeds of the target infrastructure have to provide at least a doubling of the download and upload speeds as compared to the available infrastructure.
- (52) Germany moreover indicates that the target infrastructure will provide access to a range of new or extended applications for private customers in the field of virtual private networks, cloud computing, e-health, e-learning as well as games and for companies in the field of e-commerce, big data, cloud computing, video communication, industry 4.0 and e-health. Germany emphasizes in particular the importance of higher upload speeds for these applications, which will be provided by the target infrastructure to households and companies. While no technology will be excluded, the most likely technology for the target infrastructure will be based on fibre (FTTB, FTTH) which in addition will provide for further improvements as compared to the existing technologies, such as a better robustness and low latency which is of particular importance for real time applications.
- (53) The German authorities confirm that State aid under this measure can only be granted in case of a step change, that this requires in addition significant investments (such as the deployment of new fibre elements) and that no aid can be granted for a mere modernization of active network components or other upgrade measures not involving a substantial investment.
- (54) **Use of existing infrastructure:** In order to make the greatest possible use of synergies and reduce the profitability gap as much as possible, the municipalities will encourage the use of existing infrastructure for the construction of the new infrastructure.
- (55) All network operators taking part in the selection procedures that have their own passive infrastructure in the respective target area must confirm, when submitting their bid, that they will provide the information on that infrastructure to the authority in charge of the Infrastructure Atlas (currently BNetzA). They, moreover, have to confirm that they are prepared in principle to make their passive infrastructure available to other network operators taking part in the relevant selection procedure and agree that, upon demand, this information will be provided to any participant in the tender in time to allow the participant to include this information in the own bid.
- (56) **Wholesale access:** Germany indicates that in both the gap funding model and the operator's model, the selected network operator must offer effective and full unbundling, and has to grant wholesale access on the basis of all products as defined in Annex II to the Broadband Guidelines, including in any case physical access. In both models, access will be granted to the new subsidized infrastructure as well as to the selected bidder's existing infrastructure in the respective target area used for the subsidized infrastructure.
- (57) Germany confirms that open wholesale access has to be provided by the selected network operators for a duration of at least seven years, access to passive infrastructure will be granted for an unlimited time. In case ducts are

constructed, those will be large enough to cater for several (at least three) cable networks and to host point-to-multipoint as well as point-to-point solutions. If a network operator offers also retail services, wholesale access will be provided at least 6 months before the launch of such services. The access obligations are independent of any change in ownership, management or operation of the subsidised infrastructure. Under both models, comprehensive information about the subsidized infrastructure is provided to any interested wholesale access seeker on a non-discriminatory basis.

- (58) **Wholesale access pricing:** In both investment models (gap funding, operator's model) regulated wholesale access prices or published average wholesale access prices that apply in comparable, more competitive areas of Germany or the European Union have to be used as benchmarks. In case those are not available, wholesale access prices have to be set according to the principles of cost orientation and the method prescribed by the regulatory framework for the sector. The wholesale network access price shall also take into account State aid granted to the network operator and local cost structures. If there is no regulated price, and in the event of conflicts regarding the wholesale access price or the conditions for wholesale access between the wholesale access provider and an access seeker, the price and conditions are to be established by the municipalities on the basis of an opinion by an expert appointed by the respective municipality in consultation with the granting authority. The municipality must ask BNetzA for its opinion regarding the price and the conditions of wholesale access it intends to establish. BNetzA is supposed to provide its opinion within four weeks. The opinion by BNetzA is binding on the municipality and the beneficiary.
- (59) The wholesale access provider submits its wholesale access prices as soon as they are defined to the granting authority who will publish them on the central website.
- (60) **Monitoring and claw-back mechanism:** After the open and non-discriminatory selection procedure the respective municipality will enter into a cooperation agreement with the selected network operator obliging the latter to deploy and operate the relevant infrastructure (in the gap funding model the whole infrastructure will be deployed by the selected network operator, in the operator's model only the active equipment). It is therefore in a first step the respective municipality's task to verify that the target speeds are provided for the full target area and the full duration of at least seven years (earmarking period).
- (61) Germany explains that the original granting authority is the Ministry for Transport and Digital Infrastructure, which will however transfer this function via an open, transparent and non-discriminatory tender procedure to a project management company, which will then act as granting authority. In order to receive a grant, the municipalities have to provide all necessary documentation to the granting authority with respect to the correct implementation of all steps of the procedure. After the finalisation of the deployment of the network, a special assessment ("Verwendungsnachweisprüfung") will be used to check whether the aid was used in compliance with the above requirements.
- (62) Germany explains that a clawback mechanism will be applied for projects with an aid amount of EUR 10 million or more. The municipality will verify with the network operator after seven years, whether the gains from broadband services in the target area exceed the gains that the network operator estimated

in its offer to the tender (gap funding model and operator's model). If the actual gains of the network operator in the target area exceed the originally assumed level by more than 30%, the network operator must refund the gains exceeding this percentage (30%) to the granting authority.

- (63) The granting authority and the court of auditors have comprehensive examination rights. They may require additional documents from the municipality as well as – in the framework of the clawback mechanism - from the selected beneficiary.
- (64) **Transparency:** The objectives of the measure, the full text of the final aid scheme, the implementing provisions, the granting authority, the beneficiaries of the aid, the form and amount of State aid granted to each beneficiary, the date of granting, the type of undertaking, the region (at NUTS level II) and the principal economic sector in which the beneficiary has its activities (at NACE group level) will be published on the relevant Commission internet site<sup>19</sup>, on the central website and on [www.bmvi.de](http://www.bmvi.de). Such information will be published after the decision to grant the aid has been taken, will be kept for at least 10 years and will be available to the general public without restrictions.
- (65) **Reporting:** Germany undertakes to annually submit to the Commission the reports provided for by Article 26 of Council Regulation (EU) 2015/1589<sup>20</sup> and maintain for at least 10 years from the date of award of the aid (individual aid and aid granted under the scheme) detailed records containing the information and supporting documentation necessary to establish that all compatibility conditions are met, and provide them, on a written request, to the Commission within a period of 20 working days or a different period as may be fixed in the request.
- (66) Germany, moreover, commits to provide a report to the Commission pursuant to paragraph 78 (k) of the Broadband Guidelines every two years starting from the date when the network is put into use, for the duration of the aid measure. Such information will include: the information made public in line with transparency obligations pursuant to paragraph 78 (j) of the Broadband Guidelines, the date when the network is put into use, the wholesale access products, the number of access seekers and service providers on the network, the number of houses passed and take-up rates.
- (67) **Evaluation of the scheme:** The Broadband Guidelines (paragraph 53) state that certain aid schemes may require an "...evaluation in order to verify (i) whether the assumptions and conditions which led to the compatibility decision have been realised; (ii) the effectiveness of the aid measure in light of its predefined objectives; (iii) its impact on markets and competition and that no undue distortive effects arise under the duration of the aid scheme that is contrary to the interests of the Union. Given its objectives and in order not to put disproportionate burden on Member States and on smaller aid projects, this only applies for national aid schemes and aid schemes with large aid budgets, containing novel characteristics or when significant market, technology or

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<sup>19</sup> <https://webgate.ec.europa.eu/competition/transparency/public/search/home>

<sup>20</sup> Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union (OJ L 248, 24.9.2015, p. 9).

regulatory changes are foreseen. The evaluation shall be carried out by an expert independent from the State aid granting authority on the basis of a common methodology and shall be made public. The evaluation shall be submitted to the Commission in due time to allow for the assessment of the possible prolongation of the aid measure and in any case upon expiry of the scheme. The precise scope and modalities of the evaluation shall be defined in the approval decision of the aid measure. Any subsequent aid measure with a similar objective shall take into account the results of that evaluation.”

- (68) The present scheme fulfils the criterion of being an aid scheme with a large budget; therefore it will be subject to an evaluation. In light of this provision, and taking into account the best practices recalled in the Commission Staff Working Document on Common methodology for State aid evaluation<sup>21</sup>, the German authorities have submitted an evaluation plan for the measure. The main elements of the evaluation plan are described below.
- (69) The evaluation plan comprises evaluation questions that address the direct effects of the aid scheme, the proportionality and appropriateness of the aid, and a range of indirect effects including potential distortions to competition.
- (70) The questions addressing the direct impact of the aid will investigate the scheme's contributions to: broadband expansion in Germany; a sustainable development of the network (upgradability, extension possibilities); an efficient and cost-efficient network development.
- (71) A selection of indirect effects of the aid scheme will be evaluated by measuring the impact of the aid on the level of competition and the efficiency of the scheme.
- (72) The proportionality and the appropriateness of the aid will be evaluated, notably, by assessing whether the same goals could have been achieved with less aid or with a different form of aid.
- (73) The German authorities have committed that the evaluation will be largely conducted with quantitative statistical methods, which will be complemented where appropriate by a qualitative analysis and, in individual cases, by interviews with market participants. The evaluation of the state aid rules in terms of direct and indirect effects, as well as in terms of appropriateness and proportionality, is carried out on the basis of a difference analysis between a control group (e.g. “unassisted areas”) and the group affected by the scheme (e.g. “assisted areas”) in order to obtain comparative values between these two groups, with the principal aim to evaluate whether a certain development would have taken place without State aid. The actual methodology for the evaluation will be discussed in coordination with the European Commission by the end of 2022.
- (74) The German authorities have confirmed that a combination of existing data sources and additional data collection will be used for conducting the evaluation. In particular, data will be collected using the Onlineplattform of the Gigabitbüro. The Breitbandatlas des Bundes will provide additional contextual

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<sup>21</sup> Commission Staff Working Document on Common methodology for State aid evaluation, Brussels, 28.5.2014, SWD(2014) 179 final.

information and the level of coverage down to the level of individual city districts.

- (75) The entity, or entities, that will be responsible for carrying out the evaluation, will be selected in accordance with national and EU public procurement rules. The award of the contract to an evaluation body will be based on the technical quality and economic conditions of the tender.
- (76) For the purpose of ensuring the quality and reliability of the evaluation, the entity (entities) selected will be functionally independent of the Federal Ministry of Transport and Digital Infrastructure, which is responsible for the implementation of the scheme.
- (77) Data collected as part of the evaluation will be made available for other studies, with the exception of data that contains trade and business secrets or whose publication would be opposed under data protection regulations.
- (78) The German authorities have committed to submit to the Commission annual interim reports between 2022 and 2024 and a final evaluation report in the first half of 2025 at the latest and in any event in good time for a possible decision on an extension of the gigabit framework. The first interim report will be submitted in the first quarter of 2022 and will focus on descriptive statistics on the implementation of the scheme, the potential refinement of the research questions, the actual availability of indicators, and the methodology. Based on this report, the final evaluation design will be agreed with the European Commission.
- (79) The German authorities have confirmed that annual progress reports and the final evaluation report will be published on the website of the Federal Ministry of Transport and Digital Infrastructure.
- (80) In case additional broadband schemes of similar scope would be implemented in Germany, the present German evaluation plan could be substituted by an overall evaluation covering several broadband State aid schemes. This option would be considered for reasons of efficiency and implemented only if the timeline for the deployment of the additional State aid schemes were compatible with this scheme and if the modified evaluation would not generate additional administrative burden. In this case, the key elements of the evaluation plan will be maintained while the evaluation calendar will be updated. The planned evaluation reports would then provide an overall analysis of the impact of the funding programmes under investigation.

#### **4. ASSESSMENT OF THE MEASURE**

##### **4.1. Existence of aid within the meaning of Article 107(1) of the TFEU**

- (81) The notified measure constitutes State aid within the meaning of Article 107(1) TFEU, as also confirmed by Germany during the notification.
- (82) According to Article 107 (1) TFEU, "*any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market.*" It follows that in order to be qualified as State aid, the following cumulative conditions have to be met: 1) the



measure has to be granted out of State resources and it is imputable to the State, 2) it has to confer a selective economic advantage to undertakings, 3) the measure must distort or threaten to distort competition, 4) the measure has to affect trade between Member States.

- (83) **State resources:** The measure is financed by national, regional and local German State funds (see recital (18)) and is granted pursuant to the legal basis as indicated in recital (17) above. Therefore, the measure uses State resources and is imputable to the State.
- (84) **Selective economic advantage:** The measure attributes a selective economic advantage directly to the beneficiaries.
- (85) The measure supporting the deployment of a broadband access network is selective in nature in that it targets undertakings that are active only in certain regions and certain segments of the overall electronic communications services market (provision of broadband services), to the exclusion of other electronic communications services (such as internet service providers or network providers offering basic technologies allowing for speeds only below 30 Mbps download) and other economic activities beyond the sector of telecommunications.<sup>22</sup> It does not concern general infrastructure (e.g. general civil engineering works regarding for example roads), which would be open on a non-discriminatory basis to all potential users, but is limited to electronic communication operators.<sup>23</sup> The measure is therefore sector-specific.
- (86) As concerns the identification of the particular legal framework against which selectivity can be assessed, it is noted that the construction and operation of broadband networks is an economic activity conducted by commercial operators on the basis of private investments in the market. The market has even been liberalized in the past and a regulatory regime was set up in order to open the market for competition. In such a framework, economic activities normally do not receive subsidies. Within this reference framework, the granting of aid – as under the notified scheme – to some selected individual companies reduces the costs of those direct beneficiaries as compared to companies investing into broadband networks and services merely on the basis of private funds.
- (87) The broadband network operators, which operate purely on the basis of private funds and do not receive this aid are in a comparable factual and legal situation as the beneficiaries since they operate under the same technical, commercial and legal conditions in the field of broadband networks and services only on the basis of private funds. There are no factual or legal differences between the target areas and the other areas which would call for a different treatment of the beneficiaries of the measure.

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<sup>22</sup> See also Judgment of the Court of 15 June 2006 Joined Cases C-393/04 and C-41/05 Air Liquide Industries Belgium [2006] ECR I-5293, paragraph 31.

<sup>23</sup> See also N 383/09 – Germany – Amendment of N 150/08 Broadband in the rural areas of Saxony. See also Commission Decision 2003/227/EC of 2 August 2002 on various measures and the State aid invested by Spain in „Terra Mítica SA“, a theme park near Benidorm (Alicante) (OB L 91, 8.4.2003, p. 23-37).

- (88) It is the very purpose of the measure to give - in line with national and European targets - an advantage to selected beneficiaries in order to improve broadband network coverage in certain regions. There is therefore no justification for the advantage on the basis of the nature of the reference framework as defined above (see recital (86)).
- (89) ***Distortion of competition:*** The markets for electronic communications services are open to competition between operators and service providers, which generally engage in activities that are subject to competition and trade between Member States. By favouring certain operators and service providers, the notified measure is therefore liable to distort competition.
- (90) Moreover, the intervention of the State can alter existing market conditions, in that a number of customers could now choose to subscribe to the services provided by the direct beneficiary or the various access seekers instead of by existing, possibly more expensive alternative market-based solutions.
- (91) ***Effect on trade:*** Insofar as the intervention may affect network operators and service providers from other Member States, the measure has an effect on trade. Therefore, the fact that an improved broadband service and additional wholesale capacity becomes available can distort competition and affect trade between Member States.
- (92) ***Conclusion:*** In consideration of the above, the Commission concludes that the notified measure constitutes State aid within the meaning of Article 107 (1) TFEU. Therefore, it is necessary to consider whether the measure can be found to be compatible with the common market.

#### **4.2. Legality of the aid measure**

- (93) By notifying the measure before its implementation, the German authorities have fulfilled their obligation according to Article 108(3) TFEU.

#### **4.3. Compatibility of the aid**

- (94) The Commission has assessed the compatibility of the notified measure according to Article 107(3)(c) TFEU which states that: "*aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest*" shall be considered to be compatible with the internal market. In its assessment, the Commission has taken into account the Broadband Guidelines, which contain a detailed interpretation of Article 107(3)(c) TFEU as it applies to that area of State aid law.
- (95) As explained in paragraph 33 of the Broadband Guidelines, in order to be considered compatible with the internal market every aid measure must comply with the following cumulative conditions:
- a. The aid must contribute to the achievement of objectives of common interest
  - b. Absence of market delivery due to market failures or important inequalities
  - c. The aid must be appropriate as a policy instrument
  - d. The aid must have an incentive effect

- e. The aid is limited to the minimum necessary
  - f. Negative effects must be limited
  - g. The aid measure must be transparent
- (96) If those conditions are fulfilled, the Commission balances the positive effects of the aid measure in reaching the objective of common interest against the potential negative effects.

#### **4.3.1. The aid contributes to the achievement of objectives of common interest**

- (97) The Broadband Guidelines make explicit reference to the Digital Agenda, especially with respect to the achievement of objectives of common interest<sup>24</sup>. The Gigabit Communication was adopted in 2016 – three years after the Broadband Guidelines. The present decision takes into account the Gigabit Communication in the assessment under the Broadband Guidelines since the Gigabit Communication builds upon and complements the Digital Agenda.
- (98) As set out above (see recital (3)), the Europe 2020 Strategy (EU2020) and the DAE have stressed the importance of broadband deployment to promote competitiveness, social inclusion and employment in the EU. In addition, the Gigabit Communication confirms the importance of internet connectivity for the Digital Single market and the need for Europe to deploy now the networks for its digital future (see recital (4)). While the connectivity objectives defined by the DAE remain valid up to 2020, the Gigabit Communication sets out further targets in order to respond to technological developments and future needs, which call for complementary longer term objectives up to and beyond 2025: European households should have access to Internet connectivity offering at least 100 Mbps (download), upgradeable to gigabit speed, and socio-economic drivers (including, in particular, digitally intensive companies and providers of public services) should have access to speeds of up to 1 Gbps symmetric.
- (99) As indicated above (see recital (5)), the Commission clarified in the Communication "Shaping Europe's Digital Future" the targets of the Gigabit Communication and its expectation that, as the decade progresses, households will increasingly need 1 Gbps.
- (100) The German gigabit scheme can be considered as a step towards fulfilling the objectives of the Gigabit Communication both with respect to the need to deploy very high capacity networks as well as with respect to the target speeds set within the strategic objectives:
- (a) The target speeds set by Germany for the target infrastructure to be deployed under the notified measure (1 Gbps symmetric) are in line with the respective performance criteria for very high capacity networks. The high symmetric speed target of 1 Gbps symmetric as defined in this measure is consistent with networks either consisting of fibre at least up to the distribution point at the service location or being capable of delivering a similar network performance (see footnote 9). The measure will

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<sup>24</sup> See paragraph 36 of the Broadband Guidelines.

therefore increase the coverage with VHC-networks by promoting the deployment of networks offering 1 Gbps symmetric.

- (b) In a first step, the target infrastructure is provided to households, which have access to available infrastructures allowing only for less than 100 Mbps download. The number of households with access to networks capable of providing 100 Mbps (upgradeable to Gigabit speeds) will therefore increase due to the measure. This goes in line with the target set out by the Gigabit Communication that by 2025 all European households should have access to Internet connectivity offering at least 100 Mbps download (upgradeable to Gigabit speed). The deployment of the target infrastructure of 1 Gbps symmetric in those areas is in line with the objective of an infrastructure which is upgradeable to gigabit speed.
  - (c) The notified scheme will provide gigabit connectivity to socio-economic drivers<sup>25</sup>. This goes in line with the target defined by the Gigabit Communication stipulating that socio-economic drivers will need access to 1 Gbps (symmetric) by 2025.
- (101) Due to a division of the measure in two steps for households, Germany ensures that white NGA areas and grey NGA areas equipped with networks providing speeds below 100 Mbps get priority during the implementation of the notified measure. This ensures that aid is steered first to those areas, which are most in need compared to the areas identified in the second step of the intervention.
  - (102) Thus, the measure under examination will contribute to the achievement of the objectives of common interest.

#### **4.3.2. Absence of market delivery due to market failures or important inequalities**

- (103) Germany considers that the target infrastructure is necessary in order to respond to fast growing connectivity needs by industry and households. Germany explains that applications such as e-commerce, BigData, virtual private networks (VPNs), cloud computing, high-resolution video communication, industry 4.0, e-health/telemedicine, etc. require ever higher bandwidths up to the gigabit range (symmetrical) in the commercial sector. However, the demand for high transmission rates, e.g. for the increasing spread of cloud and streaming services, is according to Germany also increasing significantly in the private sector. Germany therefore considers the target areas as defined by the intervention thresholds as under-supplied and affected by market failure in case the adequate speeds as defined in the intervention thresholds of the notified measure are not planned to be provided by private investors.

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<sup>25</sup> According to Commission's Communication "Shaping Europe's Digital Future" (see recital (5)), businesses are included as main socio-economic drivers.

- (104) In its Communication on State Aid Modernisation (SAM)<sup>26</sup>, the Commission notes that State aid policy should focus on facilitating well-designed aid targeted at market failures and objectives of common European interest. State aid measures can, under certain conditions, correct market failures, thereby improving the efficient functioning of markets and enhancing competitiveness.
- (105) In 2016, the Commission assessed the needs in connectivity, which customers in the EU are expected to have until 2025 and defined on this basis the strategic objectives of the Gigabit Communication for households and for socio-economic drivers, including digitally intensive companies and public institutions. For this assessment, the Commission took into account the views of stakeholders as well as numerous studies (as also recalled in the Staff Working document, which accompanies the Gigabit Communication). The Gigabit Communication sets out the expected applications for which very high capacity networks will be needed by households and companies.<sup>27</sup> It indicates on this basis as strategic objectives until 2025 for households 100 Mbps, upgradeable to Gigabit-speed, and for socio-economic drivers 1 Gbps symmetric. Areas where the indicated speed targets are not provided and will not be provided by private investors can, on this basis, be considered as being affected by a market failure.
- (106) As set out above (see recitals (7) - (9)), under the notified measure, Germany targets in a first step areas where households have access to less than 100 Mbps download, unless operators of existing networks plan an upgrade to this speed level. Moreover, under the notified measure it is specified that socio-economic drivers having access to less than 200 Mbps symmetric (and not more than 500 Mbps download) are target areas, unless equivalent private investments are planned. In this respect, the notified scheme therefore targets areas of market failure, in line with the Gigabit Communication.
- (107) In a second step, also grey NGA areas with available infrastructures of 100 Mbps or more may be covered under the notified measure if the available NGA-network only provides less than 200 Mbps symmetric (and not more than 500 Mbps download) and no equivalent private investments are planned. This reflects Germany's expectation that by the end of 2025 the latest, households will need high symmetric speeds which go significantly beyond 100 Mbps up to gigabit speed. In step 2, Germany therefore applies the same intervention thresholds for households as for socio-economic drivers.

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<sup>26</sup> Communication from the Commission – EU State Aid Modernisation (SAM), COM(2012)0209 final;  
<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0209&from=EN>

<sup>27</sup> See Gigabit Communication, page 3: “Transformative solutions based on Internet connectivity - including cloud computing, Internet of Things, high performance computing and big data analytics – will transform business processes and influence social interactions. Next generation TV is likely to be a significant driver of bandwidth demand for households in the coming years. New digital applications - like virtual and augmented reality, increasingly connected and automated driving, remote surgery, artificial intelligence, precision farming – will require the speed, quality and responsiveness that can only be delivered by very high-capacity broadband networks.”

- (108) The speed targets as well as the two steps described before are in line with the Gigabit Communication which stipulates that by 2025 all households will need access to infrastructure, which is "upgradeable to Gigabit speed". It thereby points to exponentially growing network capacity demand and, as the decade progresses, an increasing need by households of 1 Gbps, i.e. speeds much higher than 100 Mbps, at the latest for the period beyond 2025. This is further confirmed by the Commission's Communication "Shaping Europe's Digital Future".
- (109) According to Germany, the deployment of the target infrastructure takes normally three years. Germany moreover confirms that networks deployed under step 2 of the notified measure will start operation not before the end of 2025 with a subsequent provision of services at retail level. Any deployment of the target infrastructure in areas where households have access to 100 Mbps or more as from 2023 (start of step 2 of the measure) will therefore be finalised and ready for operation at the earliest three years later by the end of 2025 for the second half of the decade and beyond. Also step 2 of the notified measure therefore addresses a market failure by providing gigabit infrastructures to households having access to 100 Mbps already but less than 200 Mbps symmetric (and not more than 500 Mbps download) for a start of operation as from end of 2025 and a subsequent provision of internet services.
- (110) The notified measure requires that detailed public consultations about the exact target areas will be conducted by the relevant municipalities in order to verify the maps and to enquire about investment plans by private investors during the next three years. Areas with available networks providing the speeds, which were set in order to define the eligibility of households and companies will be excluded from the measure. The measure will only cover areas in which such networks neither exist nor are planned to be deployed by private investors within the next years (see recitals (34) - (36)).
- (111) The measure, as notified, can therefore be considered as addressing a market failure, also with respect to grey NGA areas, in accordance with paragraphs 68 and 70 of the Broadband Guidelines and the Gigabit Communication.

#### **4.3.3. Appropriateness of State aid as a policy instrument**

- (112) Germany explains that the lack of private investments for a gigabit infrastructure is difficult to address by other less distortive measures, such as *ex ante* regulation or demand stimulation (see recital (15)). According to its analysis, *ex ante* regulation cannot create the necessary connectivity, where the market does not provide it. As to demand side measures, the German authorities consider that those would equally not suffice in order to achieve a large coverage of the target area, but can rather be used to increase take-up.
- (113) In view of the considerations indicated above (recital (112)), it can be concluded that the German gigabit scheme is an appropriate State aid measure.

#### **4.3.4. The aid has an incentive effect**

- (114) The measure will only cover areas where no infrastructure is provided or planned by private investors within the next three years (in the case of upgrades to 100 Mbps in step 1 this period is one year), which provides for the speeds defined as intervention thresholds of the measure. It follows from this that the investment would not be made within the same timeframe without the aid, which therefore has an incentive effect. Moreover, by granting access to

the subsidized network to third party operators, the measure facilitates market access for third parties.

- (115) Therefore, in line with paragraph 45 of the Broadband Guidelines, the aid provides a direct and appropriate investment incentive for the selected network providers and for third parties.

#### **4.3.5. Proportionality - Aid limited to the minimum necessary**

- (116) The German authorities have designed the measure in a way to minimise the State aid involved and the potential distortions of competition arising from the measure. In that respect, as provided by paragraph 78 of the Broadband Guidelines, the Commission notes the following elements:

##### *Detailed mapping and coverage analysis and public consultations:*

- (117) As set out above (see recitals (31) - (36)), the detailed mapping for the target areas will be done by the municipalities on the basis of the Broadband Atlas, which indicates reliable speeds. The mapping will be done on premise level identifying the NGA-coverage on the basis of "homes passed". The correctness of the data for the target areas will be verified via public consultations, during which market participants will be asked to confirm the data and to indicate their planned infrastructure investments within the relevant time period. In the definition of the ultimate target areas, the results of the public consultations will be taken into account, regardless whether the private investor plans cover the full municipality or only parts of it.
- (118) In the public consultation, investors may generally indicate their investment plans for the next three years. In step 1 of the two-step approach regarding households, investment plans for 100 Mbps-networks are considered only insofar as an existing network is planned to be upgraded to 100 Mbps. Completely new investment plans into new 100 Mbps-networks (such as a newly planned deployment of an FTTC-infrastructure in combination with (super-)vectoring) are not taken into account. This is in line with the objectives of the Gigabit Communication<sup>28</sup> which points to the need to go towards VHC-networks and infrastructure which is upgradeable to gigabit speeds. It is also justified in view of the fact that as from 2023 (step 2), also networks offering 100 Mbps may be overbuilt if they cannot offer a connectivity of 200 Mbps symmetric, which would be the case for FTTC-infrastructure.
- (119) The upgrade of existing networks to 100 Mbps network mainly relates to existing FTTC-networks for which the operators indicate plans to install (super-) vectoring and thereby achieve reliable 100 Mbps. Such upgrading can be done within a limited time period (according to Germany within a few weeks) as it does not require major construction works<sup>29</sup>. Under the notified measure, areas where such an upgrade is planned are taken out of the target areas in step 1, provided that the investor confirms that an upgrade will be finalised within one year from the public consultation. Against the background that no major construction works are needed this time period is adequate.

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<sup>28</sup> And the Electronic Communications Code

<sup>29</sup> Germany points to the fact that the BNetzA allows network operators to reserve cabinets for an upgrade with (super-)vectoring also only for at maximum one year.

- (120) On this basis, the Commission can conclude that the mapping and the public consultations follow the provisions in paragraphs 78 (a) and (b) of the Broadband Guidelines.

***Competitive selection process and most economically advantageous offer:***

- (121) As described above (see recitals (45) - (49)), the municipalities will apply a tender procedure in order to select a network provider and operator for the target infrastructure in their target areas (gap funding method), respectively an operator for the network deployed by the municipality (operator's model). The tender procedures will follow the principles of EU procurement rules and will be published on the websites of the municipalities with a link to the central website. The municipality will also publish its intended selection of the preferred bidder. The tender will specify certain minimum requirements (target speeds, number of connections) and the wholesale access obligations.
- (122) The tender procedure ensures that aid will be awarded to the bidder with the lowest need for aid. This criterion will be the most important one, even if additional award criteria, which have to be published beforehand (including their weighing), may be used by the municipalities.
- (123) In case a competitive selection process does not generate a sufficient number of bidders (less than three), the cost calculation proposed by the winning bidder is put to examination by an external accountant.
- (124) After the selection procedure, the respective municipality will enter into a cooperation agreement (gap funding model), respectively a lease agreement (operator's model) with the selected network operator, on which the BNetzA will be consulted (see recital (49)).
- (125) It can be concluded that the planned competitive selection process ensures open, transparent and non-discriminatory tenders and is in line with paragraph 78 (c) and (d) of the Broadband Guidelines.

***Technological neutrality:***

- (126) The measure does not specify any technology (see in particular recital (50) for the tenders).
- (127) The fact that the targets set by Germany for the target infrastructure at present seem to speak mostly for fibre networks (FTTB, FTTH) does not infringe the principle of technological neutrality. First, potential alternative existing technologies may be proposed by the bidders and even completely new solutions which might evolve can participate as long as they meet the target speeds. Indeed, it is worth noting that other technologies, such as 5G-infrastructure or further technological upgrades of cable infrastructure<sup>30</sup>, are as well expected to be capable of achieving the high target speeds in the foreseeable future. Second, the principle of technological neutrality requires Member States not to exclude or favour any particular technology or network platform in light of the required broadband services. As set out above (see

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<sup>30</sup> See study by WIK Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste GmbH, December 2016: „Gigabitnetze für Deutschland“ (Gigabit networks for Germany) [http://www.wik.org/fileadmin/Studien/2017/Gigabitnetze\\_Deutschland.pdf](http://www.wik.org/fileadmin/Studien/2017/Gigabitnetze_Deutschland.pdf), page 23.



recitals (100) - (101)), the required targets were comprehensibly defined on the basis of studies as used in the process leading to the Gigabit Communication and can be considered as being in line with common interest.

- (128) On this basis, the Commission can conclude that the principle of technological neutrality is respected and in line with paragraph 78 (e) of the Broadband Guidelines.

***Use of existing infrastructures:***

- (129) In the notified measure, municipalities must refer in the call for tender to the Infrastructure Atlas, and invite bidders to use existing infrastructure. All network operators participating in the tenders must provide the information on their existing networks within the target areas for the Infrastructure Atlas. They agree that this information is given to the other bidders in time so that those can integrate the information into their bids. They also have to confirm that they are in principle ready to make their passive infrastructure available to other network operators participating in the tender (see recital (55)).
- (130) The Commission is satisfied that Germany will allow for a use of existing infrastructure as required by paragraph 78 (f) of the Broadband Guidelines.

***Wholesale access conditions and pricing:***

- (131) As set out above (see recitals (56) - (57)), wholesale access to the new subsidized infrastructure as well as to the selected bidder's existing infrastructure in the respective target area, which was used for the subsidized network will have to be granted for at least seven years in general and for passive infrastructure unlimited in time. In both investment models, it is the network operator who will provide such active and passive access. The wholesale products will correspond to those listed in Annex II to the Broadband Guidelines and include in particular physical unbundling.
- (132) Any ducts financed under the measure will be large enough to cater for several cable networks, access will be granted at least 6 months before the launch of any retail services of the beneficiary and access obligations will apply irrespective of any change in ownership, management or operation of the subsidised infrastructure.
- (133) As described in recitals (58) - (59), the wholesale access prices will be set according to the principle of cost orientation or the method prescribed by the sectoral regulatory framework if it is not possible to use regulated wholesale access prices, or any published average wholesale access prices that apply in comparable, more competitive areas of Germany or the Union. The prices will take into consideration the State aid granted to the network operator and local cost structures.
- (134) In the event of conflicts between the wholesale access provider and the wholesale access seeker, the price and conditions are to be established by a public entity, such as the granting authority. The national regulator BNetzA has to be consulted on the draft wholesale access agreement. Its opinion is binding on the network operator and the municipality. The network operator provides its wholesale access prices as soon as they are defined to the granting authority which publishes them on the central website.

- (135) The Commission therefore considers that the wholesale access conditions and pricing are in line with paragraphs 78 (g) and (h) of the Broadband Guidelines.

***Monitoring and claw-back mechanism:***

- (136) As set out above (see recitals (60) - (63)), Germany requires the municipality to submit the relevant documents to the granting authority establishing that the conditions for the grant are fulfilled. Both the granting authority and the court of auditors have the right to require further documents from the municipality as well as – in the framework of the clawback mechanism - from the selected beneficiary.
- (137) The municipality has to ensure that the selected beneficiary implements the project as defined in the cooperation agreement between municipality and network operator. As set out above (see recital (49)), the municipalities will consult the agreement with the BNetzA before signing. Model contracts which will be consulted with the BNetzA will be provided for the municipalities.
- (138) A clawback mechanism (see recital (62)) will be applied for projects with an aid amount of EUR 10 million or more. Under the clawback mechanism network operators have to refund those unexpected gains which exceed an increase of 30% as compared to the gains calculated for the funding gap/rent.
- (139) It can therefore be concluded that the conditions of paragraph 78 (i) of the Broadband Guidelines are fulfilled.

***Reporting:***

- (140) Reporting is required under Article 26 of Council Regulation (EU) 2015/1589 as well as pursuant to paragraph 78 (k) of the Broadband Guidelines. As described in recitals (65) to (66), Germany commits to submit to the Commission the required reports on all existing aid schemes including the German gigabit scheme as required by Article 26 of Council Regulation (EU) 2015/1589 and paragraph 78 (j) of the Broadband Guidelines.

**4.3.6. Limited negative effects and step change**

- (141) Given the design of the measure and its compliance with the conditions of paragraph 78 of the Broadband Guidelines, the German gigabit scheme is likely to have only limited negative effects on competition. This results in particular from the fact that (i) a step change is ensured, (ii) crowding-out of comparable private investments is limited and (iii) negative effects on investment incentives are avoided.
- (142) ***Step change:*** Germany submits that, in line with paragraph 51 of the Broadband Guidelines, the planned networks will ensure a "step change" in that the selected bidder makes significant new investments in the broadband network. Germany defines for the present measure that the target infrastructure has to double the download and upload speeds of the available NGA-network. Also the high symmetric speeds required for the target infrastructure ensure that no network is deployed under the measure that just replicates the already available speed level.
- (143) Those increased speeds ensure that advanced and extended applications can be used by households and companies. The target infrastructure will allow households and companies to use on an advanced basis applications, such as

cloud computing, home office and applications in the field of virtual reality, for which, in particular, a future demand of high upload speeds is expected.<sup>31</sup>

- (144) **Crowding-out:** During the public consultation, the market raised concerns regarding a risk of crowding out of comparable private investments due to the measure. In particular, market participants pointed to a current severe lack of construction capacities in the market and the likelihood of further price increases for construction services due to the measure and the large number of projects that would be initiated at the same time, which could crowd out otherwise profitable private investments.
- (145) Germany took such concerns into account by splitting the original measure as publicly consulted into two steps as described above (see recital (8)). In step one, only white NGA areas may be targeted by the measure as well as grey NGA areas where households have access to an available infrastructure of less than 100 Mbps. Only in step two as from 2023 also areas with available networks providing 100 Mbps or more may be addressed by the notified measure. Moreover, in areas where NGA-infrastructures have recently been deployed or are in the process of being implemented, a delay for the deployment of the subsidized infrastructure may be requested by the investors of those NGA-infrastructures (see recital (10)).
- (146) The original measure as publicly consulted considered that all households without access to an infrastructure capable of providing 1 Gbps (cable or fibre) should be covered by the measure from the beginning. Moreover, in the original measure, a delay for areas with recent investments was planned only at maximum until end of 2022 – it was not planned for areas with investments which are not yet terminated but in the process of being implemented.
- (147) By the two-step approach, the measure is now structured and staggered over time. The number of households targeted by the measure is the same as initially planned by Germany under the original scheme. However, with the two-step approach, the target areas are split in two groups – one may be targeted immediately by the measure, the other one as from 2023.<sup>32</sup> This staggering of the measure in time is further extended by the delay that may occur in areas with recent or ongoing investments in NGA-networks.
- (148) This will significantly reduce the demand for construction services triggered by the measure which can come on the market immediately after the approval. The effects of the measure will be spread over the years until end of 2025 with additional demand for construction capacities coming onto the market only gradually. By this, the price increase for construction services triggered by the measure and a subsequent potential crowding out of otherwise profitable private investments into gigabit infrastructure will be effectively limited.
- (149) The notified measure overall limits competition concerns on the basis that it only addresses areas of market failure and that it ensures via a public

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<sup>31</sup> See Staff Working Document to the Gigabit Communication, SWD (2016) 300, in particular Figure 15 on page 17 and Table 1 on page 18.

<sup>32</sup> Germany submits that the measure in total targets approximately 10.6 million households, 5.4 million thereof have already access to speeds of 100 Mbps or more. Germany will under the two step approach only gradually rollout the scheme to those 10.6 million households.

consultation that no private investor was planning to deploy a comparable infrastructure or an infrastructure with speeds going beyond the intervention thresholds in the affected target areas.

- (150) Furthermore, black NGA areas (areas with more than one NGA network) are excluded from the measure.
- (151) **Investment incentives:** The market has voiced concerns during the public consultation, that the original version of the measure could have a negative impact on recent and ongoing NGA-investments. In the 2015-NGA scheme, Germany has until mid-2018 focussed on moderate speed requirements for the target infrastructures to be deployed and has promoted the possibility to use (super-)vectoring. Numerous public investments with private co-funding have been initiated since under the 2015-NGA scheme (alongside with purely private investments), a number of which have not yet finalised the deployment phase. As indicated in the public consultation, the market feared that with the new measure (in its original version), Germany would overbuild recent investments into these previously supported infrastructures too early, thereby preventing amortization of these recent investments. Any such early overbuilding could create negative effects on future investment incentives.
- (152) Germany took these concerns into account. As the notified scheme, the 2015-scheme defines a minimum period for the operation of the subsidized networks. This earmarking period was used for the calculation of the funding gap. The notified measure now provides that in areas where a subsidized NGA-project was finalised or is still ongoing, a new gigabit infrastructure to be deployed under the notified measure may start operation before the end of the earmarking period of the NGA-project only if the investor of the NGA-project does not object to such an early start during the public consultation (see recital (10)). As opposed to Germany's earlier plans in this respect this delay now includes also investments, which have not yet been terminated, but are in their implementation phase and no cut-off date (previously end of 2022) is defined. An analog delay can be requested by network operators who have invested into NGA-networks on the basis of private funds only, if they can show that such a delay is needed with respect to a full amortization of the investment. Municipalities are requested to take such requests duly into account.
- (153) Apart from this, limited effects on competition are furthermore ensured by the design of the measure: The selection procedure ensures an open, transparent and non-discriminatory procedure. The weighing criteria ensure that the most economical offer is selected. Open wholesale access will allow third party telecommunication operators to enter the market and offer services at retail level.
- (154) Moreover, no potential very high capacity infrastructure (such as FTTB/H or cable networks in the version of Docsis 3.1) will be overbuilt by the measure. FTTB/H networks regularly allow not only more than 100 Mbps download, but even 200 Mbps symmetric or can easily be upgraded to this level. Docsis 3.1 normally allows for 500 Mbps up to 1 Gbps download. Incentives to invest into those technologies are therefore not affected by the measure.
- (155) The Commission therefore concludes, that the conditions for a step change are fulfilled and that negative effects on competition are limited.

#### **4.3.7. Transparency**

- (156) As set out above (recital (64)), Germany commits to comply with the transparency obligations of the Broadband Guidelines as amended by the Commission Communication 2014/C 198/02 and to publish the relevant information relative to the measure on the relevant Commission internet site<sup>33</sup> as well as on central website for a duration of at least 10 years. It will be made available to the general public without restrictions. Germany also commits to submit to the Commission annual reports, as required under Article 26 of Council Regulation (EU) 2015/1589 as well as reports on the implementation of the measure every two years from the date the network is put in use in line with the requirements set in the paragraph 78 (k) of the Broadband Guidelines.

#### **4.3.8. The Evaluation Plan as part of the compatibility assessment**

- (157) As explained in recital (67) the Commission can require that aid schemes with large budgets be subject to an evaluation. As this is the case for the present State aid scheme, the German authorities notified an Evaluation Plan.
- (158) As described in recitals (68) to (80) of this decision, the Commission considers that the notified evaluation plan contains the necessary elements: the objectives of the aid scheme to be evaluated, the evaluation questions, the result indicators, the envisaged methodology to conduct the evaluation, the data collection requirements, the proposed timing of the evaluation including the date of submission of the final evaluation report, the description of the independent body conducting the evaluation or the criteria that will be used for its selection and the modalities for ensuring the publicity of the evaluation.
- (159) The Commission notes that the scope of the evaluation is defined in an appropriate way. It comprises a list of evaluation questions with matched result indicators. Data sources are individually defined for each question. Moreover, the evaluation plan sets out and explains the main methods that will be used in order to identify the impacts of the scheme, the final decision on the methods will be discussed and agreed with the European Commission by the end of 2022.
- (160) The Commission acknowledges the commitments made by the German authorities that the evaluation will be conducted according to the notified evaluation plan by an independent evaluation body. The procedures envisaged for selecting such evaluation body are appropriate in terms of independence and skills. Moreover, the proposed modalities for the publication of the evaluation results are adequate to ensure transparency.
- (161) As indicated in recital (80), the Commission acknowledges that in case additional broadband schemes of similar scope would be implemented in Germany, the present evaluation plan could be substituted by an overall evaluation covering several broadband State aid schemes. This option would be considered for reasons of efficiency and implemented only if the timeline for the deployment of the additional State aid schemes were compatible with the German gigabit scheme and if the modified evaluation would not generate additional administrative burden.

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<https://webgate.ec.europa.eu/competition/transparency/public/search/home>

- (162) The Commission notes the commitment made by Germany to submit to the Commission annual reports between 2022 and 2024 and a final evaluation report in the first half of 2025 at the latest.
- (163) The Commission notes the commitment made by Germany to communicate to the European Commission any challenge that could significantly affect the agreed evaluation in order to work out possible solutions.
- (164) The Commission notes that the scheme should be suspended if the final evaluation report were not submitted in good time and sufficient quality.

#### **4.3.9. Overall balancing: Positive effects expected to outweigh potential negative effects**

- (165) The objective of the measure is to provide access to very high capacity broadband infrastructure capable of providing 1 Gbps symmetric where no such private investment is planned. The measure is designed in a way that its targeted infrastructure contributes to the achievement of the objectives of common interest since it aims at putting in place Gigabit networks that qualify as very high capacity networks as indicated in the Gigabit Communication while providing a step change. Both households and companies will dispose of a new infrastructure, which allows for the use of extended applications and which can respond to increasing demand for higher speeds in the coming years. The targeted infrastructure is not provided by the market - neither via existing nor via planned private investments as verified by the public consultation. It thus addresses a market failure.
- (166) Germany has designed the notified measure in such a way as to minimise the potential distortion of competition arising from the measure. Both the definition of the intervention thresholds as well as the mapping and public consultation ensure that no comparable private investments are crowded out. Negative effects on investment incentives are minimized.
- (167) On balance, the measure is in line with the objectives of Article 107 (3) (c) TFEU as it facilitates the development of wholesale and retail broadband services, where such aid does not adversely affect competition to an extent contrary to the common interest.
- (168) The Commission therefore considers that the notified measure will support the objectives of the Gigabit Communication through the deployment of very high capacity networks in Germany and is objectively justified addressing the market failure in the targeted areas.

#### **4.3.10. Conclusion**

- (169) The Commission concludes that the German gigabit scheme meets the compatibility criteria set out in the Broadband Guidelines. Hence the aid involved is compatible with the internal market in line with Article 107 (3) (c) TFEU.

## 5. DECISION

- (170) The Commission therefore finds that the notified measure "National gigabit scheme Germany" (also "German gigabit scheme") is compatible with the internal market pursuant to Article 107 (3) (c) TFEU and has accordingly decided not to raise objections to the notified measure.
- (171) The German authorities are reminded that, pursuant to Article 108(3) of the TFEU, they are obliged to inform the Commission of any plan to extend or amend the measure.

If this letter contains confidential information which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site: <http://ec.europa.eu/competition/elojade/isef/index.cfm>.

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State Aid Greffe  
B-1049 Brussels  
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Yours faithfully  
For the Commission

Margrethe VESTAGER  
Executive Vice-President